

**REMARKS**

Claims 1, 2, 4-8, 10-15, 18, 20 and 21 are pending. Claims 2-3, 9, 16-17, 19 and 22 are currently canceled. Claims 7, 10-12, 20 and 21 have been withdrawn from consideration.

Claims 1 and 8 are currently amended. New claims 23 to 29 have been added.

Claim 1 has been amended to include the terms "the film substrate comprising an aliphatic polyester, a polycaprolactone, or a combination thereof." Support for the amendment can be found on page 4, lines 6-11 of the present application.

Claim 8 has been amended to remove the terms "polyvinyl chloride, polycarbonate, polyethylene terephthalate resin, glycol modified polyethylene terephthalate resin, polybutylene terephthalate resin, polyamide resin, polyvinylidene fluoride, one or more shape memory resins."

New independent claim 23 has been added. Support for new independent claim 23 can be found at page 8, line 18 to page 9, line 5 of the present application. New claims 24-26 are dependent on new independent claim 23.

New independent claim 27 has added. Support for new independent claim 27 can be found at page 10, lines 8-12 of the present application. New claims 28-29 are dependent on new independent claim 27.

In the Office Action, claims 10-11 were withdrawn. Applicants note that claims 10-11 refer to aliphatic polyesters, which were elected at item 4 a., Group A of Applicant's Response to Restriction Requirement dated 10/04/2007.

Entry of the amendments and reconsideration of the present application are respectfully requested.

**§ 102 / § 103 Rejections**

Claims 1, 5 and 6 are rejected under 35 USC § 102(b) as being anticipated by or, in the alternative, under 35 USC § 103(a) as obvious over U.S. 3,661,142 (Flam). Claim 1 has been amended. Applicants submit that pending claims 1, 5 and 6 are novel and nonobvious over this reference.

Claim 1 provides an adhesive tape comprising a film substrate having one or more individual layers, an adhesive layer disposed on at least one surface of the film substrate, and a temperature-indicating material disposed within or on the film substrate such that the temperature-

indicating material experiences a color change when exposed to a color-changing temperature. The film substrate has an elastic modulus of at least  $7.0 \times 10^8$  Pa at a temperature below an activation temperature ranging from about 25°C to about 100°C, an elastic modulus of not greater than  $5.0 \times 10^8$  Pa at a temperature exceeding the activation temperature, and an elongation at break of at least 150% at a temperature exceeding the activation temperature. The film substrate comprises an aliphatic polyester, a polycaprolactone or combinations thereof.

Flam describes a temperature sensing patch which comprises a flexible backing web having a pressure sensitive adhesive coated on one side of the web for holding the flexible backing web in tight direct contact with underlying skin. A plurality of discrete temperature sensitive, color-responsive indicators are located on the other side of the flexible backing web (col. 2, lines 3 - 17 of Flam).

In the Office Action, the Examiner has asserted that the properties of the film substrate having an elastic modulus at a temperature below an activation temperature, an elastic modulus at a temperature exceeding the activation temperature, an elongation at break at a temperature exceeding the activation temperature, and a color-changing temperature equal to or greater than the activation temperature of the present invention would be present in Flam. Unlike the present invention, Flam does not disclose or suggest an adhesive tape having a film substrate comprising an aliphatic polyester, polycaprolactone or combinations thereof such that the film substrate has one or more layers with an elastic modulus above and below an activation temperature, and an elongation at break as described in the present invention. Flam's teachings are limited to a flexible backing web containing encapsulated liquid crystals (col. 2, lines 37-65 of Flam) which can be adhered to and readily conformed to the contours of underlying skin (col. 2, line 37-41 of Flam).

Rather, the present invention focuses on an adhesive tape for supporting an object to be hung vertically on a wall without stretching. The present invention comprises an adhesive tape having stretch properties that are controllable through temperature (page 3, lines 1-12 of present application). However, Flam does not teach or suggest adhesive tapes that are capable of stably fixing heavy objects to a bonded substrate for an extended period of time at room temperature without being distorted due to the weight of the heavy object (page 3, lines 1-12 of present application). Flam does not teach or suggest adhesive tapes as described in the present invention that can be removed from a heavy object and a substrate without residual adhesive above an

activation temperature. Flam does not describe nor cite a film substrate having stretch properties in combination with an adhesive layer for mounting heavy objects on a bonded substrate for a period of time without distortion (page 3, lines 9-12 of present application).

For at least the foregoing reasons, Flam does not disclose each and every feature of the present invention, and the rejection of claims 1, 5 and 6 under 35 USC § 102(b) as being anticipated by Flam should now be withdrawn. Similarly, the rejection of claims 1, 5 and 6 under 35 USC § 103(a) as obvious by Flam does not overcome the fundamental lack of a *prima facie* case of obviousness and the rejection should now be withdrawn.

Claim 1 is rejected under 35 USC § 102(b) as being anticipated by or, in the alternative, under 35 USC § 103(a) as obvious over JP 2001-247828 (Yutaka et al; machine translation). Claim 1 has been amended. Applicants submit that pending claim 1 is novel and nonobvious over this reference.

Claim 1 provides an adhesive tape comprising a film substrate having one or more individual layers, an adhesive layer disposed on at least one surface of the film substrate, and a temperature-indicating material disposed within or on the film substrate such that the temperature-indicating material experiences a color change when exposed to a color-changing temperature. The film substrate has an elastic modulus of at least  $7.0 \times 10^8$  Pa at a temperature below an activation temperature ranging from about 25°C to about 100°C, an elastic modulus of not greater than  $5.0 \times 10^8$  Pa at a temperature exceeding the activation temperature, and an elongation at break of at least 150% at a temperature exceeding the activation temperature. The film substrate comprises an aliphatic polyester, polycaprolactone or combinations thereof.

Yutaka describes a reversible temperature sensitive color changing pressure sensitive adhesive tape. The adhesive tape comprises reversible thermochromic pigments fixedly dispersed in the tape substrate with a pressure sensitive adhesive laminated on one side of the tape substrate (abstract - page 1 of Yutaka).

In the Office Action, the Examiner has asserted that the properties of the film substrate having an elastic modulus at a temperature below an activation temperature, an elastic modulus at a temperature exceeding the activation temperature, an elongation at break at a temperature exceeding the activation temperature, and a color-changing temperature equal to or greater than the

activation temperature of the present invention would be present in Yutaka. Unlike the present invention, Yutaka does not disclose or suggest an adhesive tape having a film substrate comprising an aliphatic polyester, polycaprolactone or combinations thereof such that the film substrate has one or more layers with an elastic modulus above and below an activation temperature, and an elongation at break as described in the present invention. Yutaka's teachings are limited to a thermoplastic tape substrate containing thermochromic pigments and a pressure sensitive adhesive which can be adhered to an object (e.g., skin; col. 2, line 37-41 of Yutaka).

Rather, the present invention focuses on an adhesive tape for supporting an object to be hung vertically on a wall without stretching. The present invention comprises an adhesive tape having stretch properties that are controllable through temperature (page 3, lines 1-12 of present application). However, Yutaka does not teach or suggest adhesive tapes that are capable of stably fixing heavy objects to a bonded substrate for an extended period of time at room temperature without being distorted due to the weight of the heavy object (page 3, lines 1-12 of present application). Yutaka does not teach or suggest adhesive tapes as described in the present invention that can be removed from a heavy object and a substrate without residual adhesive above an activation temperature. Yutaka does not describe nor cite a film substrate having stretch properties in combination with an adhesive layer for mounting heavy objects on a bonded substrate for a period of time without distortion (page 3, lines 9-12 of present application).

For at least the foregoing reasons, Yutaka does not disclose each and every feature of the present invention, and the rejection of claim 1 under 35 USC § 102(b) as being anticipated by Yutaka should now be withdrawn. Similarly, the rejection of claim 1 under 35 USC § 103(a) as obvious by Yutaka does not overcome the fundamental lack of a *prima facie* case of obviousness and the rejection should now be withdrawn.

#### § 103 Rejections

Claims 2, 8, 13, and 15 are rejected under 35 USC § 103(a) as being unpatentable over U.S. 3,661,142 (Flam) in view of WO 02/36702A (Kuckertz et al.). Independent claim 8 has been amended. Claim 2 has been canceled. Pending claims 13 and 15 are dependent on amended independent claim 8.

Flam has been described earlier. The addition of Kuckertz does not overcome the deficiencies of Flam (i.e. the addition of Kuckertz doesn't teach or suggest all of the claim limitations of the present invention). Kuckertz describes biodegradable tear-off strips for biodegradable packaging materials having a monoaxially oriented biodegradable aliphatic polyester and/or copolyester. Kuckertz doesn't teach or suggest a film substrate comprising an aliphatic polyester, a polycaprolactone, or combinations thereof such that the film substrate has one or more layers with an elastic modulus above and below an activation temperature, and an elongation at break as described in the present invention. Flam in view of Kuckertz does not overcome the fundamental lack of a prima facie case of obviousness.

For the various reasons set forth above, the pending claims are not obvious over Flam in view of Kuckertz. The rejection of claims 2, 8, 13, and 15 under 35 USC § 103(a) as being unpatentable over Flam in view of Kuckertz has been overcome and should be withdrawn.

Claim 4 is rejected under 35 USC § 103(a) as being unpatentable over U.S. 3,661,142 (Flam) in view of SU 717201A (Mateev et al.; abstract). Pending claim 4 is dependent on amended independent claim 1.

Flam has been described earlier. The addition of Mateev does not overcome the deficiencies of Flam (i.e. the addition of Mateev doesn't teach or suggest all of the claim limitations of the present invention). Mateev describes a temperature indicator consisting of a paper base having a coating formed from a temperature sensitive substance, a binder, a pigment and a solvent. Mateev doesn't teach or suggest a film substrate comprising an aliphatic polyester, a polycaprolactone, or combinations thereof such that the film substrate has one or more layers with an elastic modulus above and below an activation temperature, and an elongation at break as described in the present invention. Flam in view of Mateev does not overcome the fundamental lack of a prima facie case of obviousness.

For the various reasons set forth above, the pending claim is not obvious over Flam in view of Mateev. The rejection of claim 4 under 35 USC § 103(a) as being unpatentable over Flam in view of Mateev has been overcome and should be withdrawn.

Claim 14 is rejected under 35 USC § 103(a) as being unpatentable over U.S. 3,661,142 (Flam) in view of WO 02/36702A (Kuckertz et al.) as applied to claims 8 and 13, and further in view of SU 717201A (Mateev et al.; abstract). Pending claim 14 is dependent on amended independent claim 8.

Flam, Kuckertz and Mateev have been described earlier. Flam in view of Kuckertz, and further in view of Mateev does not teach or suggest an adhesive tape containing a film substrate having elastic modulus and elongation at break properties, a first adhesive layer and a temperature-indicating material of the present invention. Flam in view of Kuckertz and further in view of Mateev does not overcome the fundamental lack of a *prima facie* case of obviousness.

Claim 14 is not obvious over Flam in view of Kuckertz and further in view of Mateev. The rejection of claim 14 under 35 USC § 103(a) as being unpatentable over Flam in view of Kuckertz and further in view of Mateev has been overcome and should be withdrawn.

Claim 18 is rejected under 35 USC § 103(a) as being unpatentable over U.S. 3,661,142 (Flam) in view of WO 02/36702A (Kuckertz et al.) as applied to claims 8 and 13, and further in view of U.S. 5,516,581 (Kreckel et al.). Pending claim 18 is dependent on amended independent claim 8.

Flam and Kuckertz have been described earlier. The addition of Kreckel doesn't overcome the deficiencies of Flam and Kuckertz. Kreckel describes a removable adhesive tape comprising a highly extensible and substantially inelastic backing and a layer of pressure sensitive adhesive. Kreckel doesn't teach or suggest a film substrate comprising an aliphatic polyester, a polycaprolactone, or combinations thereof such that the film substrate has one or more layers with an elastic modulus above and below an activation temperature, and an elongation at break as described in the present invention. Flam in view of Kuckertz, and further in view of Kreckel does not teach or suggest an adhesive tape of amended independent claim 8 further comprising a foam layer as described in the present invention above. Flam in view of Kuckertz and further in view of Kreckel does not overcome the fundamental lack of a *prima facie* case of obviousness.

Claim 18 is not obvious over Flam in view of Kuckertz and further in view of Kreckel. The rejection of claim 18 under 35 USC § 103(a) as being unpatentable over Flam in view of Kuckertz and further in view of Kreckel has been overcome and should be withdrawn.

### New Claims

New independent claim 23 of the present invention provides for an adhesive tape comprising a film substrate having elastic moduli properties and an activation temperature in a range greater than 25°C to less than 75°C, an adhesive layer and a temperature indicating material. The references cited in the Office Action do not teach or suggest an adhesive tape of the present invention comprising a film substrate having an activation temperature and elastic modulus properties above and below an activation temperature.

New independent claim 27 of the present invention provides for an adhesive tape comprising a film substrate as described above, an adhesive layer, a temperature indicating material and a foam layer. The references cited in the Office Action do not teach or suggest an adhesive tape of the present invention having a foam layer.

### CONCLUSION

In view of the above, it is respectfully submitted that pending claims 1, 4-6, 8, 13-15, 18, and 23-29 as amended, are in condition for allowance. If any issues or questions remain, the resolution of which the Examiner feels would be advanced by a conference with the Applicant's agent, the Examiner is invited to contact the agent at the telephone number noted below.

Respectfully submitted,

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Date

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